REMARKS

Claims 1-22 are pending in the application. The current Non-Final Office Action dated December 14, 2005 has rejected Claims 1-3, 6-17, and 19-22. Claims 4, 5, and 18 are objected to. The drawings are also objected to. In response, Claims 1-6, 11, 13, 16, 18, 19, and 22 have been amended to correct informalities and not for reasons related to patentability. Applicants have also amended Claim 11 to clarify the subject matter of the invention. Claims 23-30 have been added to further clarify the subject matter of the invention and are supported by the Specification in numerous locations. No new matter is added by way of this amendment. For at least the following reasons, Applicants respectfully submit that each of the presently pending claims is in condition for allowance.

Drawings

The drawings are objected because they do not show every feature of the invention specified in the claims. In particular, the Office Action suggests that either the comparator in Claim 11 should be shown in the drawings or Claim 11 should be amended. The Specification clearly discloses that a mapping module performs the comparison function. Specification p. 12, lines 10-11. Therefore, Claim 11 has been amended to read "a remapper that compares a provided threshold ... wherein the remapper automatically changes the mapping of the received packet ..." As a result, no amendments are necessary for the drawings. At least for this reason, Applicants request that the objections to the drawings be withdrawn.

Objections to Claims 1-6, 11, 13, 16, 18, 19, and 22 because of informalities

The Office Action objects to, among other informalities, improper articles for the phrases "packet," "each queue," "weight," and "operational logic" in the claims. Applicants have amended Claims 1-6, 11, 13, 16, 18, 19, and 22 in the manners suggested by the examiner to correct grammatical inconsistencies. Applicants respectfully submit that these claims are now in condition for allowance.

Rejections of Claims 11-21 under 35 U.S.C. § 112

Claims 11-21 are rejected under 35 U.S.C. § 112. The Office Action objects to the lack of antecedent basis for the term "the forwarder." Claims 12-21 depended either directly or indirectly form Claim 11. Claim 11 has been amended to read "wherein the <u>scheduler</u> orders the forwarding of each received packet ..." At least for this reason, Applicants submit that Claims 11-21 are in condition for allowance.

Rejections of Claims 1-3, 6-9, 11, 13-17, 19, and 21-22 under 35 U.S.C. § 103(a)

Claims 1-3, 6-9, 11, 13-17, 19, and 21-22 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Fukushima et al. (US 6, 292, 489 hereinafter "Fukushima") in view of Duong Van (US 6, 600,752 hereinafter "Duong Van") and further in view of Scheinbart et al. (US 6,601,150 hereinafter "Scheinbart").

The Office Action argues that Fukushima discloses amended Claim 1's limitation of "forwarding each of the received packet in each said queue along a path towards the final destination, wherein the ordering of the forwarding of each of the received packet is in accordance <u>with a weight associated with each said queue.</u>" Applicants respectfully disagree. Fukushima's forwarding is based on the classification of a packet. See Fukushima, col 4. lines 23-26. None of the cited art discloses or suggests forwarding each packet in accordance with a weight associated with each said queue. Thus, for at least this reason, Claim 1 is not anticipated or made obvious by the prior art. Therefore, Claim 1 should be in condition for allowance.

The Office Action also argues that Duong Van discloses amended Claim 1's limitation of "providing a threshold that is compared to a differential that represents loading differences between a queue associated with the kind of data included in the received packet and another queue that is unassociated with the kind of data included in the received packet, wherein the queue associated with the kind of data included in the received packet is overloaded when the differential exceeds the threshold." Applicants respectfully disagree.

Duong Van is directed to addressing congestion in transmitting packets by utilizing an auxiliary queue. See Duong Van Abstract. Although Duong Van utilizes two queues, Duong Van makes no mention of separate queues associated with different kinds of data. In fact, Duong Van's high priority queue, and low priority queue may store data of the same type. See Duong Van, col. 3, lines 64-67 (describing receiving packets from an undifferentiated "communication link"). Furthermore, Duong Van's queues cannot be combined with Fukushima's invention. Combining all undifferentiated packets in the same queue would make Fukushima in-operative, because this would prevent the classification of the packets by the quality class of the packets. See Fukushima, col. 4, lines 13-31. Thus, there is no suggestion or motivation to combine Duong Van with Fukushima. For at least this reason, Claim 1 is not anticipated or made obvious by the prior art. Therefore, Claim 1 should be in condition for allowance.

The Office Action also argues that Scheinbart teaches the "operational logic" limitation of amended Claim 1: "when the differential exceeds the threshold and operational logic is valid, automatically changing the mapping of the received packet from the queue to the other queue, wherein the other queue is less loaded than the queue associated with the kind of data included in the received packet when the differential exceeds the threshold." Applicants respectfully disagree.

Scheinbart is directed to forwarding packets from a FIFO queue. Scheinbart discloses the use of operational logic enabling forwarding data, not remapping of data from one queue to another queue. "In a preferred embodiment of the present invention, the status information for each FIFO element includes a START indicator for indicating whether the corresponding FIFO element contains the beginning portion of a packet, and also includes a VALID indicator for indicating whether the packet stored in the corresponding FIFO element is ready to be forwarded." Scheinbart, col. 3, lines 31-33, emphasis added. Nothing in the prior art suggests applying operational logic to remapping data between queues. Furthermore, Scheinbart does not suggest using a threshold value as part of a determination for automatically changing the mapping of the received packets, as required in Claim 1. See id. Thus, for at least this reason, Claim 1 is not anticipated or made obvious by the prior art. Therefore, Claim 1 should be in condition for allowance.

Independent Claims 11 and 22 are substantially similar, albeit different than Claim 1. Therefore Claims 11 and 22 should be allowed for substantially similar reasons as for Claim 1. Dependent claims should be allowed for at least the same reasons as their corresponding independent claims.

New Claims

New independent Claims 23 and 29 recite limitations similar, albeit different than amended Claim 1. For example, Claim 23 recites "forwarding the received packet to the final destination based at least in part on at least one of the following: <u>an associated queue weight</u> that is associated with the associated queue and <u>an unassociated queue weight</u> that is associated with the unassociated queue." Additionally, Claim 29 recites "forwarding the received packet based at least in part <u>on a traffic flow</u> of the unassociated queue." Because none of the cited art discloses or suggests forwarding based on an associated queue weight, on an unassociated queue weight, or on a traffic flow, Claims 23 and 29 are not made obvious by Fukushima in view of Duong Van and further in view of Scheinbart. Thus, Claim 23 should be in condition for allowance. New dependent Claims 24-28; 30 depend either directly or indirectly from Claims 23 and 29 respectively, and therefore are in condition for allowance for substantially the above reasons.

CONCLUSION

In view of the above amendment, applicant believes the pending application is in condition for allowance.

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